

IDENTITY: Glycerin

Section I – Manufacturer Information

Fisher Scientific – Chemical Division
1 Reagent Lane
Fair Lawn, NJ 07410

Telephone Number for Information:
(201) 796-7100
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EMERGENCY NUMBER: (800) 424-9300 (Chemtrec)

Trade names: Glycerol, anhydrous, glycerine, glyceritol, glyceryl alcohol, 1, 2, 3 – propanetriol, glyrol, glysanin, trihydroxypropane, 1, 2, 3 – trihydroxypropane, osmoglyn, G-31, G-33, C₃H₈O₃

Section II – Hazard Ingredients/Identity Information

Glycerin – 99.9%

Exposure Limits

Glycerin (Mist):

5 mg/m³ OSHA TWA (respirable fraction), 10 mg/m³ OSHA TWA (total mist), 10mg/m³ ACGIH TWA

Formula – H-O-C-H₂-C-H-(O-H)-C-H₂-O-H
Molecular Weight – 92.09

Section III – Physical/Chemical Characteristics

Boiling Point: 554°F (290°C)

Vapor Pressure: 0.0025 MMHG @50°C

Vapor Density: 3.1

Specific Gravity: 1.2613

Melting Point: 68°F (20°C)

Evaporation Rate:

Solubility in Water: Soluble

Appearance and Odor: Odorless, colorless to pale yellow, hygroscopic, syrupy liquid with a warm, sweet taste.

Section IV – Fire and Explosion Hazard Data

Flash Point (Method Used): 320°F (160°C)

LEL: 0.9%

Flammable Limits: N/A

UEL:

Extinguishing Media: Dry chemical, carbon dioxide, halon, water spray or alcohol foam.

Special Fire Fighting Procedures: Move container from fire area if possible. Do not scatter spilled material with high-pressure water streams. Dike fire control water for later disposal. Use agents suitable for type of surrounding fire. Avoid breathing hazardous materials, keep upwind.

Unusual Fire and Explosion Hazards: Water or foam may cause frothing.

Section V – Reactivity Data

Stable or Unstable? Stable under normal temperatures and pressure.

Conditions to Avoid:

Incompatibility (Materials to Avoid):

Acetic anhydride, violent reaction catalyzed by phosphorus oxychloride

Calcium hypochlorite, may ignite spontaneously on mixing

Chlorine (liquid), explosive reaction

Chromium (III) oxide, explosive reaction

Chromium trioxide, violent reaction

Hydrofluoric acid, nitric acid, unstable mixture

Hydrogen peroxide, explosion hazard

Lead oxide, perchloric acid, explosion hazard

Nitric acid, sulfuric acid, explosion hazard

Oxidizers (strong), explosive reaction

Potassium chlorate, explosive reaction

Potassium Permanganate, explosive reaction on contact

Potassium peroxide, fire and explosion hazard

Sodium hydride, intense exothermic reaction

Silver perchlorate, formation of shock-sensitive solvated salt

Sodium peroxide, fire and explosion hazard

Hazardous Decomposition or Byproducts: Thermal decomposition products may include corrosive acrolein and toxic and hazardous oxides of carbon.

Hazardous Polymerization May Occur or Will Not Occur? Will Not Occur

Conditions to Avoid:

Section VI – Health Hazard Data

Routes of Entry

Inhalation: Acute exposure - due to its low vapor pressure glycerin is not considered likely to be an inhalation hazard at normal room temperatures. Vapor or mist in sufficient concentrations may interfere with respiratory function at elevated temperatures the fume may cause irritation and dehydration of the mucous membranes. Chronic exposure – no data available.

Skin: Acute exposure – application of concentrated glycerin may cause affects ranging from mild irritation to dehydration of the skin with subsequent irritation and redness. Allergic reactions are rare, but may occur in sensitive individuals. Chronic exposure – repeated or prolonged exposure to concentrated solutions may result in dermatitis.

Ingestion: Acute exposure – ingestion of 100ml resulted in headache, nausea and vomiting. Other symptoms may include digestive tract irritation, insomnia, dizziness, diarrhea and fever. Large doses may

cause hemolysis, hemoglobinuria, hyperglycemia, glycosuria, renal failure, convulsions and paralysis. Glycerin acts as an osmotic diuretic and as such may lower intraocular pressure and cause hypovolemia. Chronic exposure – ingestion of 30ml for 50 days by human volunteers resulted in increased thirst and a feeling of warmth.

Eyes: Acute exposure – application to human eye may cause a strong stinging and burning sensation, with reflex tearing and dilation of the conjunctival vessels, but no injury. Instillation into the anterior chamber resulted in an inflammation reaction and edema of the cornea with wrinkling of the posterior surface and damage of endothelial cells. Chronic exposure – no data available.

Carcinogenicity

NTP:

IARC Monographs:

OSHA Regulated:

Health Hazards:

Signs and Symptoms of Exposure:

Medical Conditions Generally Aggravated by Exposure:

Emergency and First Aid Procedure:

Inhalation – Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.

Skin – Remove contaminated clothing and shoes immediately. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.

Ingestion – Remove ingested material by gastric lavage or emesis. Give artificial respiration with oxygen if respiration is depressed. Get medical attention immediately. Administration of gastric lavage should be performed by qualified medical personnel.

Eye – Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower eyelids, until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.

Section VII – Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled: Take up with sand or other absorbent material and place into clean, dry containers for later disposal. Keep unnecessary people away. Isolate area and deny entry.

Waste Disposal Method: Dispose of by means as to comply with all local, state and federal regulations or contact an approved and licensed disposal agency.

Precautions to be Taken in Handling and Storing: Store away from incompatible substances.

Other Precautions: May burn but does not ignite readily. Avoid contact with strong oxidizers, excessive heat, sparks or open flame.

Section VIII – Control Measures

Respiratory Protection: Chemical cartridge respirator with an organic vapor cartridge with a full facepiece.

Ventilation

Local Exhaust:

Mechanical:

Special:

Other:

Protective Gloves: Rubber

Eye Protection: Splash proof or dust resistant safety goggles. Do not wear contact lenses.

Other Protective Clothing or Equipment: Full body clothing to prevent contact with skin.

Work/Hygienic Practices:

Section IX – Additional Information

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